REMARKS

Claims 1-36 are pending at the time of the Office Action. In the Office Action mailed on July 25, 2007, the Examiner took the following action: (1) rejected claims 1, 5-7, 11, 13, 16-17, 19, 21, 25-26, 29, and 31 under 35 U.S.C. §102(b) as being anticipated by Kramer (U.S. 6,466,539); (2) rejected claims 2-4 and 22-24 under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Qian (U.S. Pub. 2005/0030926); (3) rejected claims 8 and 27 under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Engels (U.S. Pub. 2004/0213174); (4) rejected claim 9 under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Ishida (U.S. 5,170,473); (5) rejected claims 10, 18, and 28 under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Kim (U.S. 6,064,554); (6) rejected claims 12 and 20 under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Lewis (U.S. 7,193,985); (7) rejected claim 15 under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Qian, and in further view of Kim; (8) rejected claims 30, 32-34, and 36 under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Kim, and in further view of Lewis; and (9) rejected claim 35 under 35 U.S.C. 103(a) as being unpatentable over Kramer in view of Kim, and in further view of Lewis and Engels. Claims 1-4, 9, 12-14, 20-24, 28, and 31-32 are amended. Applicants respectfully request reconsideration of the application in view of the foregoing amendments and the following remarks.

I. Rejections under 35 U.S.C. §102(b)

Claims 1, 5-7, 11, 13, 16-17, 19, 21, 25-26, 29 and 31 are rejected under 35 U.S.C. §102(b) as being anticipated by Kramer. Applicants respectfully traverse the rejections, and submit the claims are allowable over the cited reference to Kramer.

<u>Kramer (U.S. 6,466,539)</u>

Kramer discloses a serial bus system with two data connected at one end to a central bus subscriber and an active bus subscriber. (Column 5, Lines 8-12). The central and the active bus subscriber transmit status messages over the bus lines. (Column 4, Lines 9-14). In case of missing status messages or error in the status messages, the central bus subscriber brings the bus system into a fail-safe state. (Column 4, Lines 28-31).

<u>Claims 1, 5-7, and 11</u>

Claims 5-7 and 11 depend from claim 1. Claim 1, as amended, recites:

> 1. A method in a data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:
> transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;
> determining whether the first message was received by the other of the nodes on the first bus; and
> when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command to the other of the nodes on a second of the plurality of busses,
> wherein the recovery command is configured to cause the other of the nodes to clear a latch-up error in a bus interface circuit that operatively connects the other of the nodes to the first bus.

Applicants respectfully assert that claim 1 is patentable over Kramer. Specifically, Kramer does not teach or suggest, "wherein the recovery command is configured to cause the other of the nodes *to clear a latch-up error in a bus interface circuit* that operatively connects the other of the nodes to the first bus," as recited in claim 1. (Emphasis added).

Kramer discloses a central bus subscriber 14 (bus master) and an active bus subscriber 16 that transmit and/or receive periodic status messages via the data lines 10, 12, as well as bus subscribers 18 and 20. However, Kramer discloses that when "erroneous messages" are received

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by a bus subscriber, such as one of the bus subscriber 14, 16, 18 and 20, the bus subscriber will initiate a "safe state" that causes the "stand still of the technical system, device, machine or plant or shut-down by cutting off power supply, i.e, the application of the fail safe principle." (Column 6, Lines 49-55). In other words, the "erroneous messages" disclosed by Kramer are intended to cause the shut down of machines that are connected to the bus subscribers of Kramer. Thus, the "erroneous messages" of Kramer are not intended to clear latch-up errors in the bus subscribers.

Additional support for the fact that the "erroneous messages" disclosed by Kramer are intended to shut down machines that are connected to the bus subscribers of Kramer are found in FIG. 3. Kramer discloses that bus subscriber 18 is implemented as an "input module 18." (Column 8, Lines 21-22). Kramer further discloses that "the input module 18 provides inputs 108, 110, etc. for switches, of which an emergency off switch 112 and a start switch 114 are depicted in FIG. 3." (Column 8, Lines 23-27; Figure 3). Accordingly, Kramer does not teach or suggest that its "erroneous messages" are capable of causing its "bus subscribers" to clear up latch-up errors within the "bus subscribers."

Accordingly, claim 1 is allowable over Kramer. Furthermore, because claims 5-7 and 11 depend from claim 1, they are also allowable over Kramer for at least the same reason claim 1 is allowable, as well as for additional limitations recited in those claims.

Claims 13, 16-17, and 19

Claims 16-17 and 19 depend from claim 13. Claim 13, as amended, recites:

> 13.   A data processing system, comprising:
> a network having a plurality of busses;
> a plurality of nodes operatively connected to the plurality of busses of
>   the network;
> means for transmitting periodically a first message from one of the
>   plurality of nodes to another of the nodes on a first of the plurality
>   of busses of the network;

means for determining whether the first message was received by the other of the nodes on the first bus; and

means for transmitting a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses in response to determining that the first message was not received by the other of the nodes,

wherein the other of the nodes comprises a bus interface circuit operatively connecting the other node to the first bus, the bus interface circuit including a physical layer controller and a link layer controller, and a means for interrupting power to the bus interface circuit, and the means for interrupting power is configured to at least interrupt a current flow from the link layer controller to the physical layer controller in response to the recovery command.

Applicants respectfully assert that claim 13 is patentable over Kramer. Specifically, Kramer does not teach or suggest, "and the means for interrupting power is configured to at least *interrupt a current flow from the link layer controller to the physical layer controller in response to the recovery command,*" as recited in claim 13. (Emphasis added).

Instead, as noted above, Kramer discloses that when "erroneous messages" are received by a bus subscribers, such as one of the bus subscriber 14, 16, 18 and 20, the bus subscriber will initiate a "safe state" that is the "stand still of the technical system, device, machine or plant or shut-down by cutting off power supply, i.e, the application of the fail safe principle." (Column 6, Lines 49-55; Column 8, Lines 23-27; Figure 3). In other words, the "erroneous messages" disclosed by Kramer are intended to cause the shut down of machines that are connected to the bus subscribers of Kramer.

Moreover, Kramer also does not disclose a "physical layer controller" and a "link layer controller." Kramer discloses that each of its bus subscribers, such as the bus subscribers 14, 16, 18, and 20, may include two "bus controller modules" that implement two channels. (Column 4, Lines 38-50). Nevertheless, it is well established that the disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue

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experimentation. *Elan Pharm., Inc. v. Mayo Foundation for Medical and Education Research,* 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003). MPEP § 2121.01. Thus, Kramer cannot teach or suggest a bus subscriber that includes a "physical layer controller" and a "link layer controller" when it only discloses that each of its bus subscribers includes two "bus controller modules."

Moreover, even if, *in arguendo,* the "bus controller modules" of Kramer are equivalent to either link layer controls or physical layer controllers, Kramer still cannot teach or suggest that one of its bus subscribers contains both a "physical layer controller" and a "link layer controller." This is because Kramer specifically discloses that "the bus master 14 contains two preferably *identical* units A0, B0, the active bus subscriber 16 consists of two preferably *identical* units A_{N1} and B_N, and the other bus subscribers 18, 20 contain preferably *identical* units A1, B1 and A2, B2." (Column 5, Lines 25-29). (Emphasis added). Thus, Kramer also does not teach or suggest interrupting a current flow from a "link layer controller" to a "physical layer controller."

Accordingly, claim 13 is allowable over Kramer. Furthermore, because claims 16-17 and 19 depend from claim 13, they are also allowable over Kramer for at least the same reason claim 13 is allowable, as well as for additional limitations recited in those claims.

Claims 21, 25-26, and 29

Claims 25-26 and 29 depend from claim 21. Claim 21, as amended, recites:

> 21. A computer-readable medium containing instructions causing a program in a data processing medium to perform a method, the data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:
> transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;
> determining whether the first message was received by the other of the nodes on the first bus; and

when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses,

wherein the recovery command is configured to cause the other of the nodes to clear a latch-up error in a bus interface circuit that operatively connects the other of the nodes to the first bus.

Applicants respectfully assert that claim 21 is patentable over Kramer. Specifically, applicants incorporate the reasoning presented above in response to the rejection of claim 1 under 35 U.S.C. §102(b). Accordingly, Kramer does not teach or suggest, "wherein the recovery command is configured to cause the other of the nodes *to clear a latch-up error in a bus interface circuit* that operatively connects the other of the nodes to the first bus," as recited in claim 21. (Emphasis added). Thus, claim 21 is allowable over Kramer. Furthermore, because claims 25-26 and 29 depend from claim 21, they are also allowable over Kramer for at least the same reason claim 21 is allowable, as well as for additional limitations recited in those claims.

Claim 31

Claim 31, as amended, recites:

31.   A data processing apparatus, comprising:
a plurality of network interface cards operatively configured to connect to a network having a plurality of busses, each network interface card having a bus interface circuit operatively configured to connect to a respective one of the plurality of busses;
a memory having a program that periodically transmits a first message to at least one of a plurality of nodes operatively connected to a first of the plurality of busses of the network, determines whether the first message was received by the other of the nodes on the first bus, and transmits a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses in response to determining that the first message was not received by the other of the nodes,
wherein the recovery command is configured to cause the other of the nodes to reinitialize a bus interface circuit operatively connected to the other of the nodes to the first bus by commanding a means for interrupting power to at least interrupt a current flow from a power

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bus to a physical layer controller of the bus interface circuit in response to the recovery command; and
a processing unit for running the program.

Applicants respectfully assert that claim 31 is patentable over Kramer. Specifically, Kramer does not teach or suggest, "wherein the recovery command is configured to cause the other of the nodes to *reinitialize a bus interface circuit* operatively connected to the other of the nodes to the first bus by commanding a means for interrupting power to at least *interrupt a current flow from a power bus to a physical layer controller* of the bus interface circuit in response to the recovery command," as recited in claim 31. (Emphasis added).

First, as noted above, Kramer discloses that when "erroneous messages" are received by a bus subscribers, such as one of the bus subscriber 14, 16, 18 and 20, the bus subscriber will initiate a "safe state" that is the "stand still of the technical system, device, machine or plant or shut-down by cutting off power supply, i.e, the application of the fail safe principle." (Column 6, Lines 49-55; Column 8, Lines 23-27; Figure 3). In other words, the "erroneous messages" disclosed by Kramer are intended to cause the shut down of machines that are connected to the bus subscribers of Kramer, not cutting off current flow to components within a particular bus subscriber.

Second, as further noted above, Kramer also does not disclose a "physical layer controller." Kramer discloses that each of its bus subscribers, such as the bus subscribers 14, 16, 18, and 20, may include two "bus controller modules". (Column 4, Lines 38-50). Once again, it is well established that the disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation. *Elan Pharm., Inc. v. Mayo Foundation for Medical and Education Research*, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003). MPEP § 2121.01. Thus, Kramer cannot teach or suggest a bus subscriber that includes a "physical layer controller" simply because it discloses that each of its

bus subscribers includes "bus controller modules." Accordingly, Kramer also cannot teach or suggest interrupt a current flow from a power bus to a physical layer controller. Therefore, claim 31 is allowable over Kramer.

II. Rejections under 35 U.S.C. §103(a)

Qian (U.S. Pub. 2005/0030926)

Qian discloses a method to ensure accurate reception of transmitted data by modulating pilot signal to convey information. (Paragraph 14, Lines 1-6). The pilot signal is transmitted at one of several selectable power levels to boost the effectiveness of a traffic signal. (Paragraph 8, Lines 1-25).

Claims 2-4

Claims 2-4 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Qian. Applicants respectfully traverse the rejections, and submit the claims are allowable over the cited references to Kramer and Qian. Claims 2-4 depend from claim 1. Claim 1, as amended, recites:

> 1.   A method in a data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:
>> transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;
>> determining whether the first message was received by the other of the nodes on the first bus; and
>> when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command to the other of the nodes on a second of the plurality of busses.

wherein the recovery command is configured to cause the other of the nodes to clear a latch-up error in a bus interface circuit that operatively connects the other of the nodes to the first bus.

First, applicants incorporate the reasoning presented above in response to the rejection of claim 1 under 35 U.S.C. §102(b) as being anticipated by Kramer. Accordingly, applicants respectfully submit that Kramer does not teach or suggest the method recited in claim 1.

Second, applicants respectfully submit that the deficiencies of Kramer are not remedied by Qian. Instead, Qian's disclosure is related to varying the transmission power levels of a Reverse Secondary Pilot Channel (R-SPICH) implemented in a wireless network based on the data rates of reverse packet data channels (R-PDCH). (Paragraph 8, Lines 1-25). Accordingly, the cited references to Kramer and Qian, whether individually or in combination, do not teach, disclose or fairly suggest, "wherein the recovery command is configured to cause the other of the nodes *to clear a latch-up error in a bus interface circuit* that operatively connects the other of the nodes to the first bus," as recited in claim 1. (Emphasis added).

Furthermore, since claims 2-4 depend from claim 1, they are least allowable for the same reason that makes claim 1 allowable over the cited references. Moreover, applicants respectfully incorporate the reasoning presented above in response to the rejection of claim 13 under 35 U.S.C. §102(b), and submit that claims 3-4 are further allowable over the cited references to Kramer and Qian.

Claim 14

Claim 14 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Qian. Applicants respectfully traverse the rejection, and submit that claim 14 is allowable over the cited reference to Kramer and Qian. Claim 14 depends from claim 13. Claim 13, as amended, recites:

13.　　A data processing system, comprising:
a network having a plurality of busses;

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a plurality of nodes operatively connected to the plurality of busses of the network;

means for transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;

means for determining whether the first message was received by the other of the nodes on the first bus; and

means for transmitting a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses in response to determining that the first message was not received by the other of the nodes,

wherein the other of the nodes comprises a bus interface circuit operatively connecting the other node to the first bus, the bus interface circuit including a physical layer controller and a link layer controller, and a means for interrupting power to the bus interface circuit, and the means for interrupting power is configured to at least interrupt a current flow from the link layer controller to the physical layer controller in response to the recovery command.

First, applicants incorporate the reasoning presented above in response to the rejection of claim 13 under 35 U.S.C. §102(b) as being anticipated by Kramer. Accordingly, applicants respectfully submit that Kramer does not teach or suggest the method recited in claim 13.

Second, applicants respectfully submit that the deficiencies of Kramer are not remedied by Qian. Qian's disclosure is related to varying the transmission power levels of a Reverse Secondary Pilot Channel (R-SPICH) implemented in a wireless network based on the data rates of reverse packet data channels (R-PDCH). (Paragraph 8, Lines 1-25). Accordingly, the cited references to Kramer and Qian, whether individually or in combination, do not teach, disclose or fairly suggest, "and the means for interrupting power is configured to at least *interrupt a current flow from the link layer controller to the physical layer controller in response to the recovery command,*" as recited in claim 13. (Emphasis added).

Furthermore, since claim 14 depends from claim 13, it is at least allowable for the same reason that makes claim 13 allowable over the cited references.

Claims 22-24

Claims 22-24 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Qian. Applicants respectfully traverse the rejections, and submit the claims are allowable over the cited references to Kramer and Qian. Claims 22-24 depend from Claim 21. Claim 21, as amended, recites:

> 21.   A computer-readable medium containing instructions causing a program in a data processing medium to perform a method, the data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:
>> transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;
>> determining whether the first message was received by the other of the nodes on the first bus; and
>> when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses,
>> wherein the recovery command is configured to cause the other of the nodes to clear a latch-up error in a bus interface circuit that operatively connects the other of the nodes to the first bus.

Applicants respectfully assert that claim 21 is patentable over the cited references to Kramer and Engels. Specifically, Applicants incorporate the reasoning presented above in response to the rejection of claims 2-4 under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Qian. Accordingly, applicants respectfully submit that the cited references to Kramer and Qian, whether individually or in combination, do not disclose, teach, or fairly suggest, "wherein the recovery command is configured to cause the other of the nodes *to clear a latch-up error in a bus interface circuit* that operatively connects the other of the nodes to the first bus," as recited in claim 21.

Furthermore, because claims 22-24 depend from claim 21, they are also allowable over the cited references to Kramer and Qian for at least the same reason claim 21 is allowable, as

well as for additional limitations recited in those claims. Moreover, applicants respectfully incorporate the reasoning presented above in response to the rejection of claim 13 under 35 U.S.C. §102(b), and submit that claims 23-24 are further allowable over the cited references to Kramer and Qian.

Engels (U.S. Pub. 2004/0213174)

Engels discloses selecting a coding and modulating method from a plurality of methods for transmitting a payload between a central station and a plurality of subscriber stations. (Paragraph 1, Lines 1-6). The method is carried by detecting the load of a transmission channel and making the selection based on the detected load. (Paragraph 4, Lines 1-10).

Claim 8

Claim 8 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Engels. Applicants respectfully traverse the rejection, and submit that claim 8 is allowable over the cited references to Kramer and Engels. Claim 8 depends from claim 1. Claim 1, as amended, recites:

> 1. A method in a data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:
> > transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;
> > determining whether the first message was received by the other of the nodes on the first bus; and
> > when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command to the other of the nodes on a second of the plurality of busses,
> > wherein the recovery command is configured to cause the other of the nodes to clear a latch-up error in a bus interface circuit that operatively connects the other of the nodes to the first bus.

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well as for additional limitations recited in those claims. Moreover, applicants respectfully incorporate the reasoning presented above in response to the rejection of claim 13 under 35 U.S.C. §102(b), and submit that claims 23-24 are further allowable over the cited references to Kramer and Qian.

Engels (U.S. Pub. 2004/0213174)

Engels discloses selecting a coding and modulating method from a plurality of methods for transmitting a payload between a central station and a plurality of subscriber stations. (Paragraph 1, Lines 1-6). The method is carried by detecting the load of a transmission channel and making the selection based on the detected load. (Paragraph 4, Lines 1-10).

Claim 8

Claim 8 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Engels. Applicants respectfully traverse the rejection, and submit that claim 8 is allowable over the cited references to Kramer and Engels. Claim 8 depends from claim 1. Claim 1, as amended, recites:

> 1. A method in a data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:
> > transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;
> > determining whether the first message was received by the other of the nodes on the first bus; and
> > when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command to the other of the nodes on a second of the plurality of busses,
> > wherein the recovery command is configured to cause the other of the nodes to clear a latch-up error in a bus interface circuit that operatively connects the other of the nodes to the first bus.

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First, applicants incorporate the reasoning presented above in response to the rejection of claim 1 under 35 U.S.C. §102(b) as being anticipated by Kramer. Accordingly, applicants respectfully submit that Kramer does not teach or suggest the method recited in claim 1.

Second, applicants respectfully submit that the deficiencies of Kramer are not remedied by Engels. Instead, Engels' disclosures are related to a signaling time slot, "Slot 1" that includes a "Slot 2" that is formed of p sub-units, each consisting of a modem signaling section MS1,..., MSp, and a cell section C1 to Cp. (Paragraph 28, Lines 1-4; Paragraph 41, Lines 1-3; Paragraph 43, Lines 1-3; Figure 3). Accordingly, the cited references to Kramer and Engels, whether individually or in combination, do not teach, disclose or fairly suggest, "wherein the recovery command is configured to cause the other of the nodes *to clear a latch-up error in a bus interface circuit* that operatively connects the other of the nodes to the first bus," as recited in claim 1. (Emphasis added). Furthermore, since claim 8 depends from claim 1, it is least allowable for the same reason that makes claim 1 allowable over the cited references.

Claim 27

Claim 27 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Engels. Applicants respectfully traverse the rejection, and submit that claim 27 is allowable over the cited references to Kramer and Engels. Claim 27 depends from claim 21. Claim 21, as amended, recites:

> 21.   A computer-readable medium containing instructions causing a program in a data processing medium to perform a method, the data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:
> transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;
> determining whether the first message was received by the other of the nodes on the first bus; and

when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses,

wherein the recovery command is configured to cause the other of the nodes to clear a latch-up error in a bus interface circuit that operatively connects the other of the nodes to the first bus.

Applicants respectfully assert that claim 21 is patentable over the cited references to Kramer and Engels. Specifically, Applicants incorporate the reasoning presented above in response to the rejection of claim 8 under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Engels. Accordingly, applicants respectfully submit that the cited references to Kramer and Engels, whether individually or in combination, do not disclose, teach, or fairly suggest, "wherein the recovery command is configured to cause the other of the nodes *to clear a latch-up error in a bus interface circuit* that operatively connects the other of the nodes to the first bus," as recited in claim 21.

Ishida (U.S. 5,170,473)

Ishida discloses a communication command control system among a plurality of CPUs. (Column 2, Lines 59-63). The control system includes a control apparatus for transmitting an acknowledge signal to a request signal. (Column 2, Lines 64-69; Column 3, Lines 1-25).

Claim 9

Claim 9 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Ishida. Applicants respectfully traverse the rejection, and submit that claim 9 is allowable over the cited references to Kramer and Ishida. Claim 9 depends from claim 1. Claim 1, as amended, recites:

1.   A method in a data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:

transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;

determining whether the first message was received by the other of the nodes on the first bus; and

when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command to the other of the nodes on a second of the plurality of busses,

wherein the recovery command is configured to cause the other of the nodes to clear a latch-up error in a bus interface circuit that operatively connects the other of the nodes to the first bus.

First, applicants incorporate the reasoning presented above in response to the rejection of claim 1 under 35 U.S.C. §102(b) as being anticipated by Kramer. Accordingly, applicants respectfully submit that Kramer does not teach or suggest the method recited in claim 1.

Second, applicants respectfully submit that the deficiencies of Kramer are not remedied by Ishida. Instead, Ishida discloses that a command data issued from a CPU is transmitted via the same path as the request to destination judging circuit 46. (Column 4, Lines 67-68; Column 5, Lines 1-4). Accordingly, the cited references to Kramer and Ishida, whether individually or in combination, do not teach, disclose or fairly suggest, "wherein the recovery command is configured to cause the other of the nodes *to clear a latch-up error in a bus interface circuit* that operatively connects the other of the nodes to the first bus," as recited in claim 1. (Emphasis added). Furthermore, since claim 9 depends from claim 1, it is least allowable for the same reason that makes claim 1 allowable over the cited references.

Moreover, claim 9 is further allowable over the cited references to Kramer and Ishida because the cited references do not teach, disclose or fairly suggest, "sending a second message to the other of the nodes on the first bus *if the first message is not received by the other of the nodes*," as recited in claim 9. As noted by the Examiner, Kramer does not disclose the subject matter of claim 9. (Office Action, Page 11, Lines 8-11). Moreover, the deficiencies of Kramer are not remedied by Ishida. Instead, while Ishida discloses that a command data issued from a CPU is transmitted via the same path as the request to destination judging circuit 46, it does not

disclose that its command data is issued only if a first message is not received. (Column 4, Lines 67-68; Column 5, Lines 1-4). Accordingly, claim 9 is further allowable.

Kim (U.S. 6,064,554)

Kim discloses an overcurrent protection circuit for a universal serial bus (USB) hub unit. (Column 2, Lines 7-11). The protection circuit includes a plurality of overcurrent detectors respectively connected between the power switches and the power output ports, a plurality of signal transfer/power interruption controllers. (Column 2, Lines 13-40).

Claim 10

Claim 10 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Kim. Applicants respectfully traverse the rejection, and submit that claim 10 is allowable over the cited references to Kramer and Kim. Claim 10 depends from claim 1. Claim 1, as amended, recites:

> 1.   A method in a data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:
> transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;
> determining whether the first message was received by the other of the nodes on the first bus; and
> when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command to the other of the nodes on a second of the plurality of busses,
> wherein the recovery command is configured to cause the other of the nodes to clear a latch-up error in a bus interface circuit that operatively connects the other of the nodes to the first bus.

First, applicants incorporate the reasoning presented above in response to the rejection of claim 1 under 35 U.S.C. §102(b) as being anticipated by Kramer. Accordingly, applicants respectfully submit that Kramer does not teach or suggest the method recited in claim 1.

Second, applicants respectfully submit that the deficiencies of Kramer are not remedied by Kim. Instead, Kim's disclosures are related to interrupting power to the power output ports in response to detecting an *overcurrent flow*. (Column 2, Lines 13-40). However, Kim does not disclose transmitting an recovery command, "wherein the recovery command is configured to cause the other of the nodes *to clear a latch-up error in a bus interface circuit* that operatively connects the other of the nodes to the first bus," as recited in claim 1. (Emphasis added). In further support of Applicants' position, Applicants submit that Kim is not concerned latch up errors, but instead with prevent overcurrent from flowing from a USB hub unit to other devices. Specifically, the relevant section of Kim states that its device prevents "overcurrent from flowing to subsequent USB hub units and/or peripheral devices connected to the USB hub unit." (Column 1, Lines 19-22).

Accordingly, the cited references to Kramer and Kim, whether individually or in combination, do not teach, disclose or fairly suggest the method recited in claim 1. Furthermore, since claim 10 depends from claim 1, it is least allowable for the same reason that makes claim 1 allowable over the cited references.

Claim 28

Claim 28 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Kim. Applicants respectfully traverse the rejection, and submit that claim 28 is allowable over the cited references to Kramer and Kim. Claim 28 depends from claim 21. Claim 21, as amended, recites:

21.   A computer-readable medium containing instructions causing a program in a data processing medium to perform a method, the data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:

transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;

determining whether the first message was received by the other of the nodes on the first bus; and

when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses,

wherein the recovery command is configured to cause the other of the nodes to clear a latch-up error in a bus interface circuit that operatively connects the other of the nodes to the first bus.

Applicants respectfully assert that claim 21 is patentable over the cited references to Kramer and Kim. Specifically, Applicants incorporate the reasoning presented above in response to the rejection of claim 19 under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Kim. Accordingly, applicants respectfully submit that the cited references to Kramer and Kim, whether individually or in combination, do not disclose, teach, or fairly suggest, "wherein the recovery command is configured to cause the other of the nodes *to clear a latch-up error in a bus interface circuit* that operatively connects the other of the nodes to the first bus," as recited in claim 21. Furthermore, since claim 28 depends from claim 21, it is least allowable for the same reason that makes claim 21 allowable over the cited references.

Lewis (U.S. 7,193,985)

Lewis discloses a method for providing Internet Protocol communication services to a mobile client. (Abstract). The method includes determines a foreign agent to provide communication services to the mobile client based on a mobile client information record, a radio node record, and a plurality of foreign agent records associated with the radio node. (Abstract).

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Claim 12

Claim 12 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Lewis. Applicants respectfully traverse the rejection, and submit that claim 12 is allowable over the cited references to Kramer and Lewis. Claim 12 depends from claim 1. Claim 1, as amended, recites:

> 1. A method in a data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:
>
> transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;
>
> determining whether the first message was received by the other of the nodes on the first bus; and
>
> when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command to the other of the nodes on a second of the plurality of busses,
>
> wherein the recovery command is configured to cause the other of the nodes to clear a latch-up error in a bus interface circuit that operatively connects the other of the nodes to the first bus.

First, applicants incorporate the reasoning presented above in response to the rejection of claim 1 under 35 U.S.C. §102(b) as being anticipated by Kramer. Accordingly, applicants respectfully submit that Kramer does not teach or suggest the method recited in claim 1.

Second, applicants respectfully submit that the deficiencies of Kramer are not remedied by Lewis. Instead, Lewis discloses a communication network that includes a control node that is capable of generating an initialization control reply message to "a foreign agent", wherein the message includes a secret key. (Column 10, Lines 40-60). However, Lewis is silent with respect to latch-up errors. Accordingly, the cited references to Kramer and Lewis, whether individually or in combination, do not teach, disclose or fairly suggest, "wherein the recovery command is configured to cause the other of the nodes *to clear a latch-up error in a bus interface circuit* that operatively connects the other of the nodes to the first bus," as recited in claim 1. (Emphasis

added). Furthermore, since claim 12 depends from claim 1, it is least allowable for the same reason that makes claim 1 allowable over the cited references.

Moreover, claim 12 is further allowable over the cited references to Kramer and Lewis. As noted by the Examiner, Kramer does not disclose the subject matter of claim 12. (Office Action, Page 13, Lines 9-11). Moreover, the deficiencies of Kramer are not remedied by Lewis. Instead, as discussed above, Lewis' disclosure is related to control node to generate a secret key. (Column 10, Lines 40-60). Lewis does not disclose, teach or fairly suggest, "commanding a recovery circuit to at least one of *inhibit a first current from a physical layer controller of the bus interface circuit from reaching a link layer controller of the bus interface circuit* or *inhibit a second current from the link layer controller from reaching the physical layer controller*, as recited in claim 12. Accordingly, claim 12 is further allowable.

Claim 20

Claim 20 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Lewis. Applicants respectfully traverse the rejection, and submit that claim 20 is allowable over the cited references to Kramer and Kim. Claim 20 depends from claim 13. Claim 13, as amended, recites:

> 13.   A data processing system, comprising:
> a network having a plurality of busses;
> a plurality of nodes operatively connected to the plurality of busses of the network;
> means for transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;
> means for determining whether the first message was received by the other of the nodes on the first bus; and
> means for transmitting a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses in response to determining that the first message was not received by the other of the nodes,

wherein the other of the nodes comprises a bus interface circuit ᴄ
operatively connecting the other node to the first bus, the bus
interface circuit including a physical layer controller and a link
layer controller, and a means for interrupting power to the bus
interface circuit, and the means for interrupting power is
configured to at least interrupt a current flow from the link layer
controller to the physical layer controller in response to the
recovery command.

First, applicants incorporate the reasoning presented above in response to the rejection of claim 13 under 35 U.S.C. §102(b) as being anticipated by Kramer. Accordingly, applicants respectfully submit that Kramer does not teach or suggest the method recited in claim 1.

Second, applicants respectfully submit that the deficiencies of Kramer are not remedied by Lewis. Instead, Lewis discloses a communication network that includes a control node that is capable of generating an initialization control reply message to "a foreign agent", wherein the message includes a secret key. (Column 10, Lines 40-60). However, Lewis is silent with respect to a "physical layer controller" and a "link layer controller." Accordingly, the cited references to Kramer and Lewis, whether individually or in combination, do not teach, disclose or fairly suggest, "and the means for interrupting power is configured to at least *interrupt a current flow from the link layer controller to the physical layer controller in response to the recovery command*," as recited in claim 13. (Emphasis added). Furthermore, since claim 20 depends from claim 13, it is least allowable for the same reason that makes claim 13 allowable over the cited references.

Moreover, claim 20 is further allowable over the cited references to Kramer and Lewis. As noted by the Examiner, Kramer does not disclose the subject matter of claim 20. (Office Action, Page 13, Lines 9-11). Moreover, the deficiencies of Kramer are not remedied by Lewis. Instead, as discussed above, Lewis' disclosure is related to control node to generate a secret key. (Column 10, Lines 40-60). Thus, Lewis also cannot disclose, teach or fairly suggest, "means for interrupting power flow is further configured *to interrupt a current flow from a power bus to the*

physical layer controller in response to the recovery command," as recited in claim 20. Accordingly, claim 20 is further allowable.

Claim 30

Claim 30 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Kim, and in further view of Lewis. Applicants respectfully traverse the rejection, and submit that claim 30 is allowable over the cited references to Kramer, Kim, and Lewis. Claim 30 depends from claim 21. Claim 21, as amended, recites:

> 21. A computer-readable medium containing instructions causing a program in a data processing medium to perform a method, the data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:
>> transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;
>> determining whether the first message was received by the other of the nodes on the first bus; and
>> when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses,
>> wherein the recovery command is configured to cause the other of the nodes to clear a latch-up error in a bus interface circuit that operatively connects the other of the nodes to the first bus.

Applicants respectfully assert that claim 21 is patentable over the cited references to Kramer, Kim and Lewis. Specifically, Applicants incorporate the reasoning presented above in response to the rejection of claim 19 under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Kim. Accordingly, applicants respectfully submit that the cited references to Kramer and Kim do not teach or suggest the computer-readable medium recited in claim 21.

Moreover, the deficiencies of Kramer are also not remedied by Lewis. Lewis discloses a communication network that includes a control node that is capable of generating an

initialization control reply message to "a foreign agent", wherein the message includes a secret key. (Column 10, Lines 40-60). However, Lewis is silent with respect to latch-up errors.

Accordingly, the cited references to Kramer, Kim, and Lewis, whether individually or in combination, do not teach, disclose or fairly suggest, "wherein the recovery command is configured to cause the other of the nodes *to clear a latch-up error in a bus interface circuit* that operatively connects the other of the nodes to the first bus," as recited in claim 21. Furthermore, since claim 30 depends from claim 21, it is least allowable for the same reason that makes claim 21 allowable over the cited references.

Claims 32-34 and 36

Claims 32-34 and 36 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Kim, and in further view of Lewis. Applicants respectfully traverse the rejection, and submit that claim 30 is allowable over the cited references to Kramer, Kim, and Lewis. Claims 32-34 and 36 depend from claim 31.

Claim 31, as amended, recites:

> 31.   A data processing apparatus, comprising:
> a plurality of network interface cards operatively configured to connect to a network having a plurality of busses, each network interface card having a bus interface circuit operatively configured to connect to a respective one of the plurality of busses;
> a memory having a program that periodically transmits a first message to at least one of a plurality of nodes operatively connected to a first of the plurality of busses of the network, determines whether the first message was received by the other of the nodes on the first bus, and transmits a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses in response to determining that the first message was not received by the other of the nodes,
> wherein the recovery command is configured to cause the other of the nodes to reinitialize a bus interface circuit operatively connected to the other of the nodes to the first bus by commanding a means for interrupting power to at least interrupt a current flow from a power

bus to a physical layer controller of the bus interface circuit in response to the recovery command; and

a processing unit for running the program.

Applicants respectfully assert that claim 31 is patentable over Kramer, Kim and Lewis. Specifically, Applicants incorporate the reasoning presented above in response to the rejection of claim 31 under 35 U.S.C. §102(b) as being anticipated by Kramer. Accordingly, applicants respectfully submit that Kramer do not teach or suggest the data processing apparatus recited in claim 31.

Moreover, the deficiencies of Kramer are also not remedied by Kim and Lewis. Kim's disclosures are related to interrupting power to the *power output ports* in response to detecting an overcurrent flow. (Column 2, Lines 13-40). However, Kim does not disclose a bus interface circuit that includes a *physical layer controller*, nor does Kim disclose interrupting current flow from a power bus to the *physical layer controller*. (Emphasis Added). Additionally, Lewis discloses a communication network that includes a control node that is capable of generating an initialization control reply message to "a foreign agent", wherein the message includes a secret key. (Column 10, Lines 40-60). However, Lewis also silent with respect to bus interface circuits that include physical layer controllers and interrupting power to physical layer controllers.

Accordingly, the cited references to Kramer, Kim, and Lewis, whether individually or in combination, do not teach, disclose or fairly suggest, "wherein the recovery command is configured to cause the other of the nodes to reinitialize a bus interface circuit operatively connected to the other of the nodes to the first bus by commanding a means for interrupting power *to at least interrupt a current flow from a power bus to a physical layer controller of the bus interface circuit in response to the recovery command*," as recited in claim 31. Furthermore, since claims 32-34 and 36 depend from claim 31, it is least allowable for the same reason that makes claim 31 allowable over the cited references.

Moreover, claim 32 is further allowable over the cited references to Kramer, Kim, and Lewis. Applicants respectfully submit that for the same reason cited above, the cited references also cannot disclose, teach or fairly suggest, as recited in claim 32, "wherein the recovery command is further configured to cause the other of the nodes to reinitialize the bus interface circuit operatively connected to the other of the nodes to the first bus by commanding the means for *interrupting power to interrupt current flow from a link layer controller of the bus interface circuit to the physical layer controller*." (Emphasis added). Accordingly, claim 32 is further allowable.

Claim 35

Claim 35 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Kim, and in further view of Lewis and Engels. Applicants respectfully traverse the rejection, and submit that claim 30 is allowable over the cited references to Kramer, Kim, Lewis, and Engels. Claim 35 depends from claim 31. Claim 31, as amended, recites:

> 31.   A data processing apparatus, comprising:
> a plurality of network interface cards operatively configured to connect to a network having a plurality of busses, each network interface card having a bus interface circuit operatively configured to connect to a respective one of the plurality of busses;
> a memory having a program that periodically transmits a first message to at least one of a plurality of nodes operatively connected to a first of the plurality of busses of the network, determines whether the first message was received by the other of the nodes on the first bus, and transmits a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses in response to determining that the first message was not received by the other of the nodes,
> wherein the recovery command is configured to cause the other of the nodes to reinitialize a bus interface circuit operatively connected to the other of the nodes to the first bus by commanding a means for interrupting power to at least interrupt a current flow from a power bus to a physical layer controller of the bus interface circuit in response to the recovery command; and

a processing unit for running the program.

Applicants respectfully assert that claim 31 is patentable over the cited references to Kramer, Kim, Lewis and Engels. Specifically, Applicants incorporate the reasoning presented above in response to the rejection of claims 32-34 and 36 under 35 U.S.C. §103(a) as being unpatentable over Kramer in view of Kim, and in further view of Lewis. Accordingly, applicants respectfully submit that the cited references to Kramer, Kim, and Lewis, do not teach or suggest the data processing apparatus recited in claim 31.

Moreover, the deficiencies of Kramer are also not remedied by Engels. Instead, Engels' disclosures are related to a signaling time slot, "Slot 1" that includes a "Slot 2" that is formed of p sub-units, each consisting of a modem signaling section MS1,..., MSp, and a cell section C1 to Cp. (Paragraph 28, Lines 1-4; Paragraph 41, Lines 1-3; Paragraph 43, Lines 1-3; Figure 3). However, Engels is silent with respect to bus interface circuits that include physical layer controllers and interrupting power to physical layer controllers.

Accordingly, the cited references to Kramer, Kim, Lewis, and Engel, whether individually or in combination, do not disclose, teach, or fairly suggest, "wherein the recovery command is configured to cause the other of the nodes to reinitialize a bus interface circuit operatively connected to the other of the nodes to the first bus by commanding a means for interrupting power *to at least interrupt a current flow from a power bus to a physical layer controller of the bus interface circuit in response to the recovery command*," as recited in claim 31. Furthermore, since claim 35 depends from claim 31, it is least allowable for the same reason that makes claim 31 allowable over the cited references.
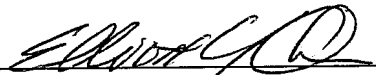
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CONCLUSION

Applicants respectfully submit that pending claims 1-36 are now in condition for allowance. If there are any remaining matters that may be handled by telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

Respectfully Submitted,

Dated: _10-18-07_   By: _____
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